IN THE CLAIMS

Claim 1 (currently amended): A circuit adapted to compensate for RMR variations, comprising:

a first current source coupled to a first resistor connected to a RMR element;

a second current source coupled to a second resistor connected to said RMR element, wherein the first resistor and the second resistor are coupled;

a resistive sensor coupled on either side to a third resistor and to a fourth resistor; and

a transconductance feedback block coupled to the resistive sensor, the third resistor, and to the fourth resistor.

Claim 2 (original): The circuit of claim 1 further comprising a first closed loop buffer coupled to the third resistor and to the transconductance feedback block.

Claim 3 (original): The circuit of claim 2, wherein the first closed loop buffer is further coupled to the first current source and to the first resistor.

Claim 4 (currently amended): The circuit of claim ~~1~~ 2 further comprising a second closed loop buffer coupled to the fourth resistor and to the transconductance feedback block.

Claim 5 (currently amended): The circuit of claim 4, wherein the ~~second~~ closed loop buffer is further coupled to the second current source and to the second resistor.

Claim 6 (original): The circuit of claim 1 further comprising a first ground coupled to the first resistor and to the second resistor.

Claim 7 (original): The circuit of claim 1 further comprising a second ground coupled to the first current source and to the second current source.

Claim 8 (withdrawn): A circuit adapted to compensate for shunt resistance across a resistive sensor, comprising:

a first current source coupled to a first resistor;

a second current source coupled to a second resistor, wherein the first resistor and the second resistor are coupled;

a resistive sensor coupled on either side to a third resistor and to a fourth resistor;

a transconductance feedback block coupled to the resistive sensor, the third resistor, and to the fourth resistor; and

a shunt resistor coupled to the resistive sensor, the third resistor, and to the fourth resistor.

Claim 9 (withdrawn): The circuit of claim 8 further comprising a first closed loop buffer coupled to the third resistor and to the transconductance feedback block.

Claim 10 (withdrawn): The circuit of claim 9, wherein the first closed loop buffer is further coupled to the first current source and to the first resistor.

Claim 11 (withdrawn): The circuit of claim 8 further comprising a second closed loop buffer coupled to the fourth resistor and to the transconductance feedback block.

Claim 12 (withdrawn): The circuit of claim 11, wherein the second closed loop buffer is further coupled to the second current source and to the second resistor.

Claim 13 (withdrawn): The circuit of claim 8 further comprising a first ground coupled to the first resistor and to the second resistor.

Claim 14 (withdrawn): The circuit of claim 8 further comprising a second ground coupled to the first current source and to the second current source.

Claim 15 (original): A method for compensating for RMR variations in an open loop current bias architecture, comprising:

producing a first voltage at an output node of a first closed loop buffer;

producing a second voltage at an output node of a second closed loop buffer;

applying the first voltage and the second voltage across a serially coupled resistor, a resistive sensor, and another resistor, wherein the resistor is coupled to the first closed loop buffer and the other resistor is coupled to the second closed loop buffer; and

establishing a voltage across input nodes of a transconductance feedback block coupled to the serially coupled resistors.

Claim 16 (original): The method of claim 15 further comprising sourcing a feedback current to an input node of the first closed loop buffer by the transconductance feedback block.

Claim 17 (original): The method of claim 15 further comprising sinking a feedback current from an input node of the second closed loop buffer by the transconductance feedback block.

Claim 18 (original): The method of claim 15, wherein the first voltage is equal to a voltage produced between a serially coupled first current source and first resistor at an input node of the first closed loop buffer.

Claim 19 (original): The method of claim 18 further comprising supplying a programmable current to the input node of the first closed loop buffer by the first current source.

Claim 20 (original): The method of claim 19 further comprising supplying a feedback current to the input node of the first closed loop buffer by the transconductance feedback block.

Claim 21 (original): The method of claim 20 further comprising establishing a voltage at the input node of the first closed loop buffer.

Claim 22 (original): The method of claim 21, wherein the voltage is established as the programmable current and the feedback current flow through the first resistor to a ground coupled to the first resistor.

Claim 23 (original): The method of claim 15, wherein the second voltage is equal to a voltage produced between a serially coupled second current source and second resistor at an input node of the second closed loop buffer.

Claim 24 (original): The method of claim 23 further comprising sinking a programmable current from the input node of the second closed loop buffer by the second current source.

Claim 25 (original): The method of claim 24 further comprising sinking a feedback current from the input node of the second closed loop buffer by the transconductance feedback block.

Claim 26 (original): The method of claim 25 further comprising establishing a voltage at the input node of the second closed loop buffer.

Claim 27 (original): The method of claim 26, wherein the voltage is established as the programmable current and the feedback current flow through the second resistor from a ground coupled to the second resistor.

Claim 28 (original): The method of claim 15 further comprising flowing by a current between the output node of the first closed loop buffer, the output node of the second closed loop buffer, and through the serially coupled resistors when the first voltage and the second voltage is applied across the serially coupled resistors.

Claim 29 (currently amended): The method of claim 28 further comprising the step of flowing current through the resistive sensor ~~by the current~~ thereby establishing the voltage across the input nodes of the transconductance feedback block.

Claim 30 (original): The method of claim 29, wherein the current depends on a value of a programmable current that has been sourced to an input node of the first closed loop buffer.

Claim 31 (original): The method of claim 29, wherein the current depends on a value of a programmable current that has been sinked from an input node of the second closed loop buffer.

Claim 32 (original): The method of claim 29 further comprising correcting a feedback current independent of a resistance value of the resistive sensor.

Claim 33 (withdrawn): A method for compensating for shunt resistance across a resistive sensor, comprising:

producing a first voltage at an output node of a first closed loop buffer;

producing a second voltage at an output node of a second closed loop buffer;

applying the first voltage and the second voltage across a serially coupled resistor, a resistive sensor, another resistor, and a shunt resistance wherein the resistor is coupled to the first closed loop buffer, the other resistor is coupled to the second closed loop buffer, and the shunt resistance is coupled in parallel to the serially coupled resistors; and

increasing a current through the resistive sensor to increase a current shunted away from the resistive sensor by the shunt resistance.